University of North Georgia
College of Science and Mathematics
Department of Physics
PHYS 1112L- Intro Physics II, Laboratory- Spring 2019

General Information

Instructor: Dr. Nathan Harrison

The information contained in this lab syllabus is in addition to the lecture syllabus. Please be familiar with both syllabi.

Course Description

This course is a co-requisite of PHYS 1112and entails laboratory investigation of the fundamental principles of physics. An emphasis will be placed on introductory scientific computing and experimental data analysis.

Means by Which Outcomes will be Assessed

1. Students will do calculations to predict the outcomes of experiments
2. Students will perform measurements/simulations to measure the outcomes of experiments, and compare with theoretical predictions
3. Students will write laboratory reports and compile a portfolio

Course Content

Each chapter covered in lecture will concluded with a laboratory investigation of relevant topics (see lecture syllabus for more details). Every other lab report will be "abbreviated" format (see below).

Course Policies

1. Attendance: regular and punctual attendance is expected of all students. Two unjustified absences qualify a student for a WF grade.
2. Make-ups: make-ups will not be allowed in general. Email to inform the instructor if you are going to miss a test or a lab due to an extenuating circumstance.

Course Grading

Each student is expected to write a laboratory report at the end of every lab. The report is due one week after the completion of the lab. A late penalty of up to a letter grade per day will be incurred for late lab reports. The course grade will be determined as follows:

Laboratory Reports: 100%

"Full" Laboratory Report Format

All reports must adhere to the following format with clearly labeled sections:

1. OBJECTIVE: A clear statement of the goals of the investigation/experiment

2. THEORY: A clear exposition of the theoretical background of the investigation. All the formulae used and a description of the variables must be included in this section at a minimum.

3. PROCEDURE: Break up the procedure followed in the experiment to a series of numbered steps

4. DATA: The original data must be attached to the report. The DATA-table must be neat, clearly labeled and with appropriate units

5. CALCULATIONS: All calculations are to be clearly shown in original. Do not type your calculations. Make sure that all the calculated quantities have the appropriate units

6. RESULTS: Summarize all the numerical results of the experiment, preferably in a table.

7. ANALYSIS: Ascertain reasons for inaccurate results if that was the case

8. COMMENTS: State any comments you may have about the experiment performed

"Abbreviated" Laboratory Report Format

1. OBJECTIVE

2. DATA

3. CALCULATIONS

4. RESULTS

Lab Report Expectations

1. Neat

2. Organized

3. With clearly labeled data tables with appropriate units

4. All original data has to be presented

5. All calculated quantities must have units on them

6. There must be a clear RESULTS section summarizing the numerical results of the experiment; this should preferably be in tabular form

All the lab reports are expected to be in a binder/folder, such that the student will compile a Laboratory Portfolio in the course of the semester.

Grading Criteria

1. Neat presentation of write-up (minus 4 if not)

2. Organized in a binder with labeled dividers for each lab (minus 5 if not)

3. With clearly labeled data tables with appropriate units (minus 8 if not)

4. All original data has to be presented (minus 5 if not)
5. All calculated quantities must have units on them (minus 4 for each instance)
6. There must be a clear RESULTS section summarizing the numerical results (with appropriate units) of the experiment; this must be in a tabular form (minus 8 if no Results section)
7. If a section is missing – minus 15
8. Misrepresented result (reported results not asked for) – minus 5 per case
9. Missing error analysis – minus 5 per case
10. Incorrect Calculation – minus 8 per case
11. Incomplete Theory (missing formulae, description of variables etc) - minus 8
12. Attention to significant figures – minus 2 for each case